VISIT…

NEST Complete Learning System™

The Animated Hero Classics®

Resource & Activity Book

Thomas Edison

By: Amy Binder, Kim Freeberg, Tony Salerno, & Katherine Vawter

NEST Family Entertainment™

Parent and Teacher Guide

Studies have proven learning is enhanced through the use of several senses. A recent study shows that we retain 10 percent of what we see, 20 percent of what we hear, and 50 percent of what we see and hear. But when we see, hear and do, we retain 90 percent of the information.
(Lisa Marie Nelson, Ph.D., Author "The Healthy Family Handbook").

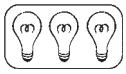
The purpose of this Resource & Activity Book is to help children learn and retain the story theme and principles in a fun and educational way. Your children will love coloring pages, solving puzzles, matching games, completing word searches, and much more! Each Resource & Activity Book also features challenging questions and activities for children from preschool through middle school. And in the rare case you don't know an answer, there's an answer key in the back!

LEVEL OF DIFFICULTY

The activities in this book are designed in three levels of difficulty designated by symbols. The activities with one symbol are geared towards younger children while the activities with two and three symbols become increasingly challenging for older children.

Level One
Easy

Level Two
Intermediate



Level Three
Advanced

CURRICULUM RELATED

These educational activities are related to various educational discipline such as social studies (geography, history, culture), language arts (spelling, creative writing, grammar, literature), math (simple equations), and science. There are also activities for character development, video awareness, problem solving, music, history, art and more. The subject guides below are for your convenience.

Art | Character Development | Culture | Geography | History | Language Arts | Math | Music | Problem Solving | Science | Spelling | Video Awareness | Writing

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REFERENCES

For those wishing to further study the life of Thomas Edison, some of the references used in research for the Resource & Activity Book are listed below, along with other titles that may be of interest.

Adler, David A. *Thomas Alva Edison: Great Inventor.* New York: Holiday House, 1990.

Ardley, Neil. *The Science Book of Electricity.* San Diego: Harcourt Brace Jovanovich, 1991.

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Markle, Sandra. *Power Up: Experiments, Puzzles and Games Exploring Electricity.* New York: Atheneum, 1989.

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"Edison–One of the World's Great Inventors." *Compton's Pictured Encyclopedia and Fact Index.* Volume 4. Chicago: F.E. Compton and Co., 1960.

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The Secret Sentence

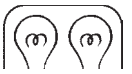
Edison is well-known for one very important invention. This invention is hidden in the secret sentence. Follow the two steps below to decode the sentence and to find Edison's most well-known invention.

STEP ONE Each picture below is of someone from the story of Thomas Edison. Match a word from the Word Box with each picture and write the word in the blanks below it.

WORD BOX

JOHN KREUSI	BATCHELOR	FRANCIS UPTON	EDISON	GROVE

_ _ _ _



EDISON'S AMAZING ANAGRAMS

An anagram is a word you make by rearranging the letters in another word. There is a word to the left of each sentence below. Rearrange the letters in these words to form new words. Then write the new words in the blanks to complete each sentence.

1. **replay** The phonograph became what we call the record _____ .
2. **bale** Edison believed he was _____ to invent an electric light.
3. **design** J.P. Morgan _____ an agreement to be Edison's financier.
4. **meat** Edison, Batchelor, Kreusi and Upton worked as a _____.
5. **phase** The first glass bulbs Edison used were the _____ of a cylinder.
6. **detest** Edison _____ many kinds of metal for the electric light coil.
7. **warts** Edison even tried hair and _____ as material for coils.
8. **silt** Kreusi made a _____ of every material they tried.
9. **smite** Edison's light bulb experiments failed many _____ .
10. **pots** Even when experiments failed, Edison did not _____ trying.

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Edison tells reporters about his new invention.

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Stay in the Center

Complete the sentences to find some fun facts about Thomas Edison when he was a boy.

To complete each sentence, look at the letters in Column A and in Column B. Then write the letter that comes between them in the alphabet on the space in the center column.

1 When he was a boy, Tom set up a small laboratory in a train car. He was thrown off the train when some bottles exploded and started a ...

Column A		Column B
E	___	G
H	___	J
Q	___	S
D	___	F

2 As a boy, Tom loved to read. What interested him the most were books on ...

Column A		Column B
R	___	T
B	___	D
H	___	J
D	___	F
M	___	O
B	___	D
D	___	F

3 As a child and as an adult, Tom was known for always being positive and ...

Column A		Column B
B	___	D
G	___	I
D	___	F
D	___	F
Q	___	S
E	___	G
T	___	V
K	___	M

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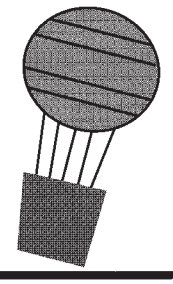
Around The WORLD in 1879



Many exciting things were happening around the world during Thomas Edison's lifetime.

In **Scotland**, Alexander Graham Bell invented the telephone (1876). In **France**, August Rodin created his most famous sculpture, "The Thinker" (1880). In **Great Britain**, Robert Louis Stevenson wrote his classic children's book Treasure Island (1883). In **Russia**, Tchaikovsky composed his famous ballet, "Swan Lake" (1895). In **Italy**, G. Marconi invented the wireless telegraph (1895).

Color in these five places on the modern-day map below. Then find and circle their names in the Word Search Puzzle.

WORD SEARCH PUZZLE

X	P	L	I	R	D	F	R	U	S	S	I	A	M	F	T	X
L	V	B	T	G	G	R	B	A	S	O	F	J	K	R	M	I
G	R	E	A	T	B	R	I	T	A	I	N	S	I	A	J	A
V	P	M	L	Q	L	A	T	E	C	O	W	N	X	N	R	M
L	O	J	Y	R	S	C	O	T	L	A	N	D	Y	C	L	Z
S	H	E	O	U	V	F	B	U	D	G	U	P	H	E	Q	K

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WORD Whirls

Begin at the arrow and circle the first letter. Then circle every other letter. The circled letters will make words that will answer the question below the puzzle. Write your answer in the blank.

1

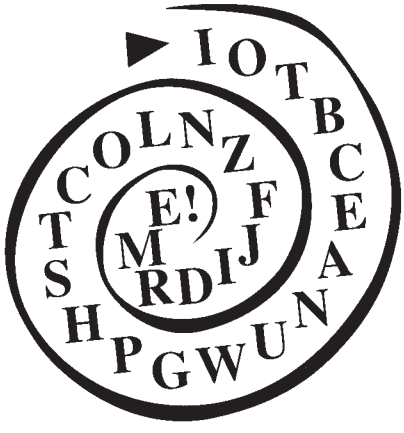
What was Tom's first job on the railroad? (2 words)

_____ _____

2

What job was Tom given as a reward for saving a little boy's life? (2 words)

_____ _____



3

What happened to the laboratory that Edison set up on the train? (4 words)

_____ _____

_____ _____

4

What happened to Tom when a conductor helped him get on a moving train by quickly grabbing him by his ears? (3 words)

_____ _____ _____

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Finish the Story

The story below tells about Thomas Edison when he was a young boy. Find the verbs, nouns or adjectives in the Word Boxes that best fit the blank spaces in the story. Write the words in the blanks.

Noun Box		Adjective Box	Verb Box	
home	boy	intelligent	liked	teach
questions	school	fuzzy	worked	threw
candy	balloons	small	think	read
inventor	electricity	dangerous	knew	exploded

"Young Tom Edison"

Thomas Alva Edison was born on February 11, 1847, in Milan, Ohio.

Tom was a very _____ little _____ . He _____ to ask _____
(adjective) (noun) (verb) (noun)
and find how things _____ .
(verb)

Tom did not like _____ because his teachers did not understand
(noun)
him. They did not _____ that he was very bright. Tom's mother
(verb)
_____ he was very intelligent. She decided to _____ him at home.
(verb) (verb)

Tom _____ many books on science. He set up a _____ laboratory
(verb) (adjective)
in his parents' cellar. He did his first experiments there. That was the beginning of Tom's career as an _____ .
(noun)

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"I heard Edison says electric light will replace gaslight!"

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EVEN OR ODD?

Edison was a diligent worker. He worked hard all day long on his experiments. Sometimes he worked late into the night. If his experiment did not work, he kept trying. Solve the puzzle to find the results of Edison's diligence.

STEP ONE: ***Look at each number. If it is odd, circle the letter in the odd column. If it is even, circle the letter in the even column.***

	7	20	5	13	8	19	14	11	6	21	17	4	1	18	15	3	16	9
EVEN:	B	I	D	G	O	N	K	L	A	R	F	S	O	C	H	I	S	T
ODD:	H	R	S	W	A	R	E	W	B	S	A	K	U	M	C	E	N	S

STEP TWO: ***Now write the circled letters in the spaces below to find the answer.***

___ ___ ___ ___ ___ ___ ___ ___ ___ ___

___ ___ ___ ___ ___ ___ ___ ___ .

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Nouns and Verbs

A noun is the name of a person, place, thing or idea. Examples of nouns are: *house, dog, love.* A verb can be an action word such as *run* or *walk.* It can also be a state-of-being word such as *is* or *was.*

Finish each sentence below with a word from the Word Box. If the sentence tells you to use a noun, choose the correct noun from the Word Box. If the sentence tells you to use a verb, choose the correct verb from the Word Box.

WORD BOX

gaslight pump believe find inventor finance experiments discourage

1. Edison called himself an _____ rather than a scientist.
(Noun)

2. Edison used a _____ to get all the air out of the light bulb.
(Noun)

3. Edison's co-workers looked everywhere to _____ the right filament for the light bulb.
(Verb)

4. Edison believed that the electric light would replace _____.
(Noun)

5. J.P. Morgan helped to _____ Edison's work.
(Verb)

6. Edison and his co-workers did many _____ together.
(Noun)

7. Many people did not _____ the electric light bulb was possible.
(Verb)

8. Edison did not let his failed experiments _____ him.
(Verb)

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THE ALPHABET ANSWER

There have been many inventors, but Thomas Edison became the most famous. He had something that made him finish an experiment instead of giving up. To find what he had, follow the three steps below.

STEP ONE: The math problems below have letters instead of numbers. Match the letters with the numbers from the Code Box and write the number beside the letter. Solve the math problem. Then write the letter in the box that matches the answer.

CODE BOX

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

Example: **D** = (4)

+E = (5)

(9)

K = **−D** = ___ ☐

B = **+C** = ___ ☐

G = **+B** = ___ ☐

Q = **−E** = ___ ☐

G = **−C** = ___ ☐

F = **+H** = ___ ☐

K = **−F** = ___ ☐

K = **−H** = ___ ☐

STEP TWO: Copy the letters from the boxes above in these blanks.

___ ___ ___ ___ ___ ___ ___ ___ ___

STEP THREE: Unscramble these letters to find what special character quality Edison had.

___ ___ ___ ___ ___ ___ ___ ___ ___

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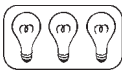

NUMBER SOLUTION

J.P. Morgan was giving Edison money for his experiments on the electric light. But when the Gas Company bribed another scientist to lie, it caused problems. The scientist told newspaper reporters something that made J.P. Morgan angry. Follow the directions to find the news that was going around.

STEP ONE: Solve the math problems and then circle the word next to the number that matches your answer.

2 x 1 =
(1) with
(2) not
(3) invent
(4) bulb

2 + 2 =
(1) wire
(2) Edison
(3) try
(4) light

4 – 1 =
(1) lab
(2) false
(3) the
(4) carbon

3 – 2 =
(1) is
(2) coils
(3) science
(4) glass

1 + 3 =
(1) gas
(2) with
(3) find
(4) possible

4 ÷ 2 =
(1) from
(2) electric
(3) same
(4) pump

STEP TWO: Write the circled words in the spaces below.

_____ _____ _____ _____ _____ _____

STEP THREE: Now arrange the words to make a sentence that tells what made J.P. Morgan angry.

_____ _____ _____ _____ _____ _____

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J.P. Morgan agrees to finance Edison's experiments.

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POET'S PAGE

Below is an unfinished poem about Thomas Edison. The word at the end of every other line is missing.

YOU be the poet! Look at each underlined word. Think of a word that rhymes with it. Then write the rhyming word in the blank space to finish the sentence.

"Edison's Electrifying Idea"

Everyone used gas for <u>light</u>.
Edison had more in _____ .

With a scientific <u>plan</u>,
Edison's great work _____ .

At his lab, for hours he'd <u>stay</u>,
Experimenting, night and _____ .

Different metals he would <u>test</u>,
And he worked with little _____ .

Every coil, in its <u>turn</u>
Would light up, and then would _____ .

Edison made up his <u>mind</u>,
The solution he would _____ .

Then the failures of the <u>past</u>,
All the work, paid off at _____ .

Edison lit up the <u>night</u>
With his new electric _____ .

This poem officially finished by poet: _____
(your name here)

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The Word Link

WORD BOX

Edison	**hang**	**sell**	**let**	**tap**
bait	**ban**	**invented**	**rang**	**some**
silly	**name**	**thing**	**help**	**wait**
mankind	**and**	**sorry**	**halt**	**bring**
mad	**to**	**nail**	**things**	**that**

There is an important message about Thomas Edison hidden in the Word Box above. Follow the three steps below and discover the message.

Step One: Cross off all the words in the Word Box described as follows:

All words beginning with "S"
All three-letter words
All words ending in "G"
All words beginning with "N"
All four-letter words ending in "T"

Step Two: Write the remaining words in these blanks:

_____ _____ _____ _____ _____ _____

Step Three: Write the words in the correct order to form a sentence about Thomas Edison.

_____

_____

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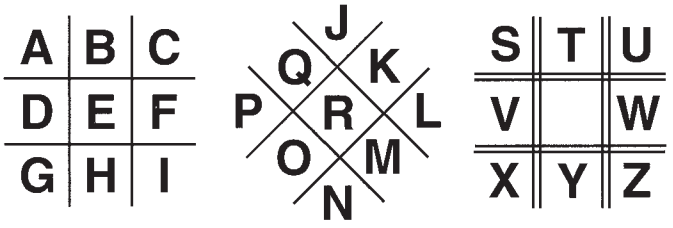
CODE FUN!

Thomas Edison is best known for his invention of the electric light. However, he invented many other wonderful things as well. During his lifetime he received over 1,000 patents for his inventions.

A patent is a government grant given to someone which allows a person to make or sell his or her invention for a certain number of years. Learn some interesting facts about Edison's patented inventions by solving the coded messages below.

In the Code Box below you will see that each letter of the alphabet has its own special symbol. Use these symbols to decode the answers to the questions below. Write your answers in the blank spaces under the symbols.

CODE BOX

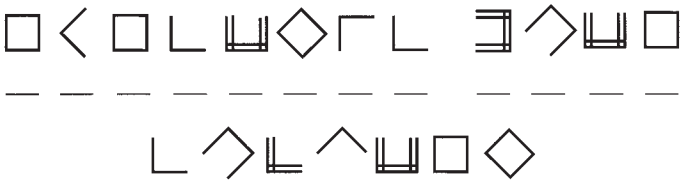


EXAMPLE

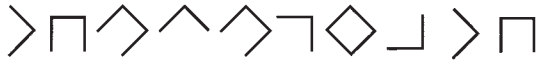
Who helped Edison build the phonograph?

K R E U S I

1. Edison received his first patent for which invention? (3 words)



2. Which patented invention recorded and played back sound?



3. What was the original name of Edison's motion picture camera?

4. Which patented invention did Edison receive $40,000 for? (2 words)

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MIX 'N' MATCH CODE

The platinum coils inside the first light bulbs kept melting. Edison could not determine the reason for the coils becoming so hot. There was something he couldn't see that was feeding the fire. Break the code to discover Edison's invisible problem.

In the Code Box there are two rows of letters. Decode the sentences below by matching the top row of letters with the bottom row. Write the new letters in the blanks above the code letters.

CODE BOX

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Z	Y	X	W	V	U	T	S	R	Q	P	O	N	M	L	K	J	I	H	G	F	E	D	C	B	A

Example: T _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

G S V I V D Z H L C B T V M

_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ .

R M H R W V G S V Y F O Y H

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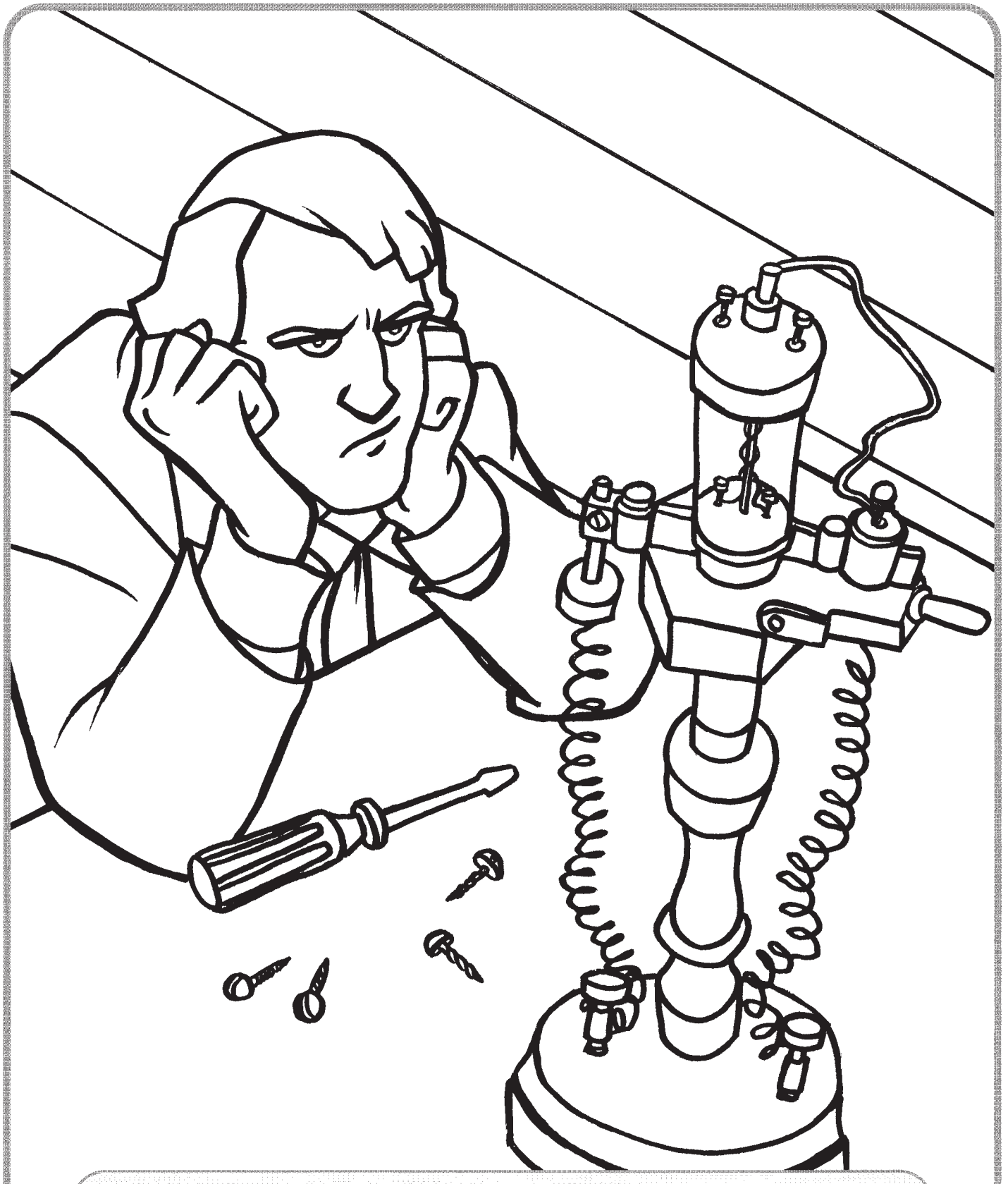

Edison tries many different experiments.

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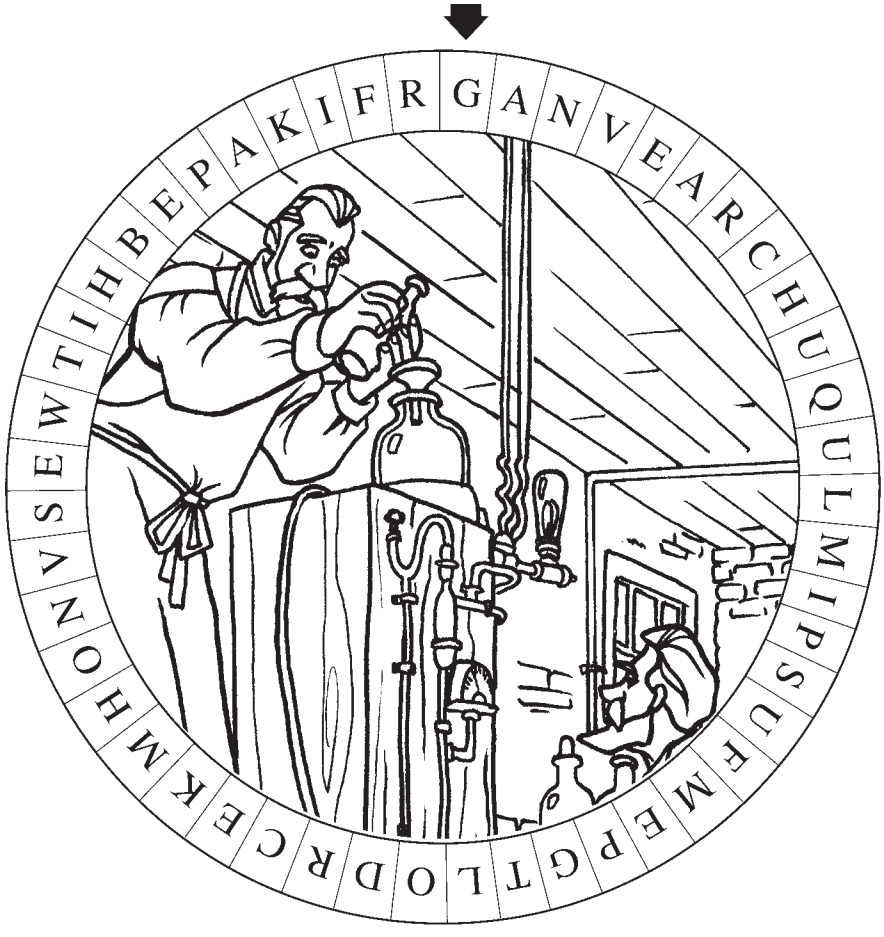
WORD WHEEL

Edison discovered there was something inside the light bulbs that was causing the coils to burn out. Work the puzzle below to find what it was and what Edison needed to solve the problem.

Move clockwise around the wheel and color in every other letter beginning with the letter "G" at the arrow. When you have finished, return to the arrow. Moving clockwise around the wheel, read the letters that were not colored. These letters will spell out seven words that will tell you the answer. Write the words in order in the blanks below the puzzle.



What did Edison need to solve the problem?

_____ _____ _____ _____ _____ _____ _____

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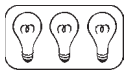

Find The Spelling Mistakes...

A+

Find and circle the spelling mistake in each sentence below. Then write the word correctly in the space on the right.

1. Thomas Edison was an inventer. _____
2. He did many experments in his lab. _____
3. Edison worked togethur with other scientists. _____
4. He did not let failyur stop him from trying. _____
5. Edison was diligint in his work. _____
6. Thomas Edison invented an electrick light. _____

Using the correct spelling of the words above, write your own sentences about Thomas Edison in the blanks below. Use at least one of the spelling words in each sentence.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

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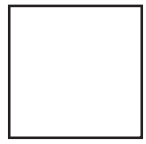
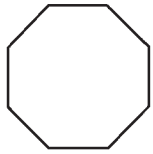
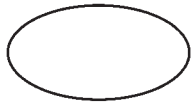
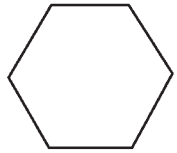
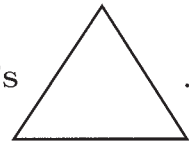
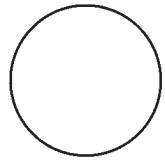
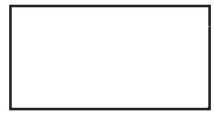
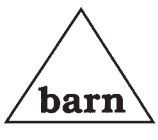
WORD SHAPES

For each sentence, find the matching shape at the bottom of the page. Finish the sentence by using the word that is inside the matching shape.

1. Edison was a very curious  .
2. Once he saw a  sitting on her eggs.
3. So he sat on some  to see if they would hatch.
4. Edison also experimented with  .
5. He burned down his father's  .
6. When he was twelve, he was hired to work on a  .
7. In his free time, he did experiments in the  car.



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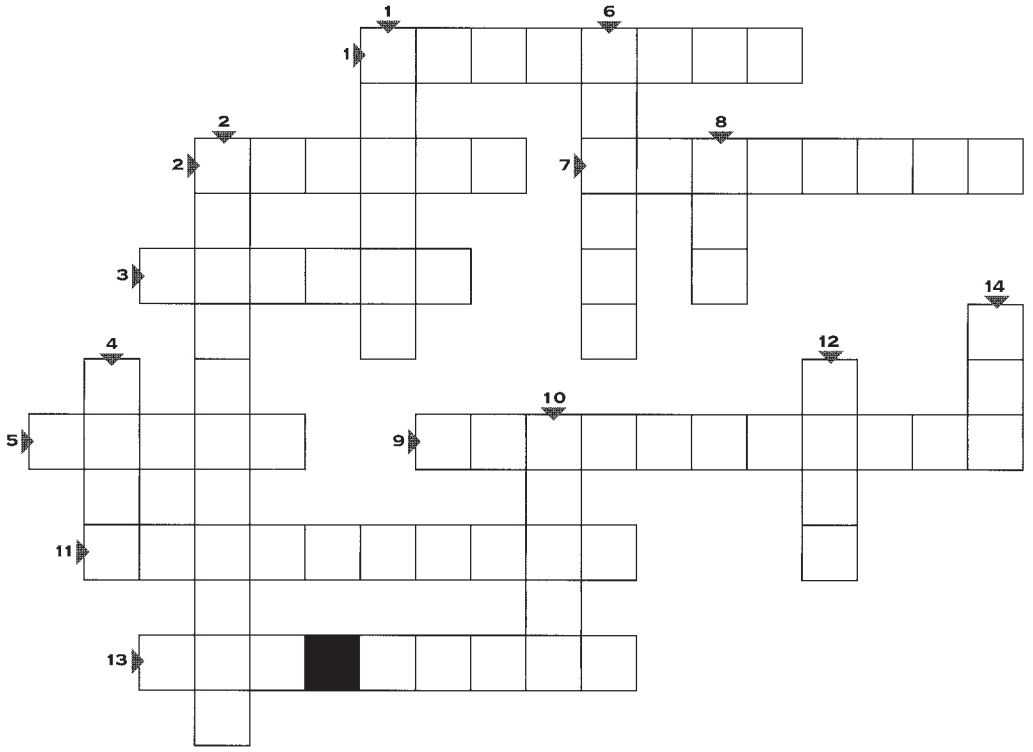
Edison's Crossword



Across

1. Edison invented the _____ light.
2. _____ is 1% inspiration.
3. Used to coat the metal coils.
5. Many of these burned out.
7. Electric light is clean, safe and _____ .
9. Edison did many _____ in his lab.
11. Invention that plays recorded music.
13. Edison lit 2000 bulbs on _____ _____ Eve. (two words)

Down

1. _____ invented the phonograph.
2. Someone who makes glass bulbs.
4. Edison used a vacuum _____ .
6. Used in the first successful light bulb.
8. The Gas Co. bribed a scientist to _____.
10. People read the news about electricity in the daily _____ .
12. Edison told Upton that he _____ too many books.
14. Before electric light, people used _____ light.

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Warwick is paid to discredit Edison.

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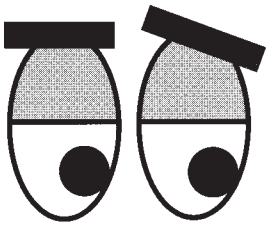

WHAT AM I??

Thomas Edison had a very important character quality that helped him to continue his experiments even when he was discouraged. To find what it was, fill in the boxes below.

I'm a letter in **BID**, but not in **BIN:** ☐

I'm a letter in **TEN**, but not in **TIN:** ☐

I'm a letter in **FIN**, but not in **FAN:** ☐

I'm a letter in **TON**, but not in **TOT:** ☐

I'm a letter in **LED**, but not in **RED:** ☐

I'm a letter in **CAT**, but not in **SAT:** ☐

I'm a letter in **BIT**, but not in **BAT:** ☐

I'm a letter in **LED**, but not in **LAD:** ☐

I'm a letter in **LOG**, but not in **LOT:** ☐

Now, unscramble the letters in the boxes to find what I am:

___ ___ ___ ___ ___ ___ ___ ___ ___

In your own words, write in the blanks below why you feel this quality is important. How can you show this quality at home? How can you show this quality at school to your teachers and friends?

_____

_____

_____

_____

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NUMBER SEQUENCE

Edison discovered something on the glass around the gas light. It gave him the idea of the material he could use to coat the coils inside his light bulbs. Follow the directions to find what Edison discovered.

Step One: Circle the letter after every row of numbers that are multiples of two.

6	9	12	15	18	21	S
36	38	40	42	44	46	C
50	55	60	65	70	75	N
12	14	16	18	20	22	A
27	28	29	30	31	32	T
8	10	12	14	16	18	R
74	76	78	80	82	84	B
10	20	30	40	50	60	I
48	50	52	54	56	58	O
62	64	66	68	70	72	N

Step Two: Now write the circled letters, in order, to spell the answer.

_____

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Edison's SIZZLING SCIENCE SECTION

Thomas Edison did many different kinds of experiments with electricity. There are two kinds of electricity: "current electricity" which moves through wires and bulbs and around a circuit, and "static electricity" which stays still.

You can make static electricity yourself. Here is a simple experiment you can do at home or at school. Follow each step exactly and write what you discover in the blank spaces below each question.

BEING "IN CHARGE"

Things that have static electricity in them have either a "positive" or a "negative" charge. These two different charges can either attract or repel each other.

STEP 1: Tie a piece of string firmly around a small plastic bottle and hang it up. Then rub a clean, dry handkerchief against the top of the bottle. (This will cause a "negative" charge.)

STEP 2: Take the handkerchief and rub it hard against a plastic pen. (This will also cause a "negative" charge.) Now hold the pen next to the plastic bottle. What happens to the bottle? _____

_____

Why do you think this happened? _____

_____

_____

STEP 3: Now tie the string around a small glass bottle and hang it up. Rub the handkerchief against the bottle. (This will cause a "positive" charge.) Rub the pen hard with the handkerchief and hold it near the bottle. What happens to the bottle? _____

_____

Why do you think this happened? _____

_____

_____

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WORD SEARCH

All of the words hidden in the puzzle below are the names of people and things that are important to the story of Thomas Edison. Find and circle each of these words. They read down, across, diagonal and backwards. Each of these words is in the Word Box below.

Q I N C A N D E S C E N T L A M P S
U E E T D C B H P A R G O N O H P C
A F X G E H I J I N V E N T O R A I
D J T P S L R H Q P O O N M L K S T
R U P V E W E Y P X Z S A B C D R A
U R G M F R E G G A S L I G H T E M
P O H I O J I K R L R M N D O P T E
L L X W V R U M T A S G I R E Q R H
E E Y Z A S G C E D P E O S F G O T
X H B O E H M A K N J H I E U H P A
L C M N O P Q R N S T U V W M E E M
B T C I F I T N E I C S A Z Y I R X
C A D E F G H Y R E W O L I J K M K
O B N T H G I L C I R T C E L E M L
T R A N S M I T T E R P Q N O T P U

EDISON	BATCHELOR	MATHEMATICS	MIMEOGRAPH	SCIENTIFIC
ELECTRIC	INCANDESCENT LAMP	EXPERIMENTS	TRANSMITTER	GASLIGHT
TELEGRAPH	INVENTOR	BOEHM	UPTON	LOWERY
KREUSI	PHONOGRAPH	REPORTERS	J.P. MORGAN	QUADRUPLEX

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"On New Year's Eve, I will light up this place with 2,000 electric lights!"

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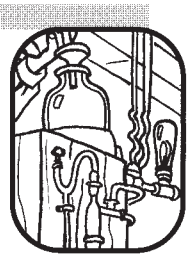
THE MISTER A-MAZE-ING EDISON

Thomas Edison was always patient, cheerful and witty. Many people asked him why he was so successful. His answer to this question can be found in the maze below.

To discover what he said, start with Edison at the top and move through the maze until you reach his laboratory at the bottom. There is only one correct path. Once you have found it, go back to the beginning and cross off every other letter starting with the "A" at the arrow. The remaining letters will spell out Edison's answer as to why he was successful. Write the words in order in the blank spaces below the maze.

→	A	I	B	O	C	W	D	F	G	A	S	T	T	I	U	V	W	N	Y	M	Z	Y	
						E		H		R		X		Y		Z		X				A	
	S	M	Y	N	M	O	E	J	K	I	H		E	A	N	B	C	D		I	B		O	C	W
	Q		P						L		P		E				F		W		D		G	
	U		S		T	D	O	E		T	O	T		V	G	E	H	R		K		R	E	K	
	R	I	U	V		C		F		N					I		J	K		V				F	
	C		W			S		T	G		C	M	A		D	L	A	M	H		C	U		O	H	R
	X		Y			B		H				K	L		O			N			T			I		J
	C	Z	E	A		S		H	I	E	J	F			A	P	C	Q	L	R	O	S		O	J	M



According to Edison, what was his secret of success?

_____

_____

_____

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fun with Math and Words

Have some fun with math and words to find what happened when Edison's experiments failed. First you must solve the addition problems:

8	7	3	5	6	7
+2	+9	+4	+7	+3	+7
T	E	O	D	G	R

3	2	9	6	10	3
+5	+4	+6	+5	+ 8	+2
I	S	H	N	P	Y

The sums of the addition are now code numbers for the letters below them. Write each letter in the spaces above the code numbers, and you will find what Edison did <u>not</u> do when his experiments failed.

15	16	12	8	12	11	7	10		
6	10	7	18	10	14	5	8	11	9

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PUZZLING POETRY

Each rhyme describes someone or something from the story of Thomas Edison. Read each rhyme aloud. Then write your answer in the blank.

Tom Edison invented me,
With the help of John Kreusi.
I record and play back sound
And my turntable goes 'round and 'round.

WHAT AM I? _____

Tom Edison invented me,
So everyone at night could see.
He made me with a lot of power,
So that I'd shine for hours and hours.

WHAT AM I? _____

I am a wealthy man
Who believed in Edison's plan
To make the whole world shine by night
By using the new electric light.

WHO AM I? _____

I studied math in school,
And I know all the rules.
I have math books by the score,
And I want to learn even more.

WHO AM I? _____

I live in Menlo Park.
I don't like to be in the dark.
My mind is quick and bright.
And I invented the electric light.

WHO AM I? _____

I am the head of the Gas Company.
I am losing money very rapidly.
All because of Edison's intention
To replace gaslight with his new invention.

WHO AM I? _____

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before & AFTER

Edison tried many different metals and materials for coils inside his electric light bulb. Solve the puzzle to discover the unlikely material that glowed in the first successful electric bulb.

Step One: For every clue on the left, circle the correct letter in the word on the right.

Circle the letter BEFORE the R	copper
Circle the letter AFTER the A	platinum
Circle the letter BEFORE the S	weeds
Circle the letter AFTER the I	iron
Circle the letter BEFORE the A	hair
Circle the letter BEFORE the L	aluminum

Step Two: Write the circled letters on the line below.

_____

Step Three: Now unscramble the letters to discover what was in the first electric light bulb.

_____

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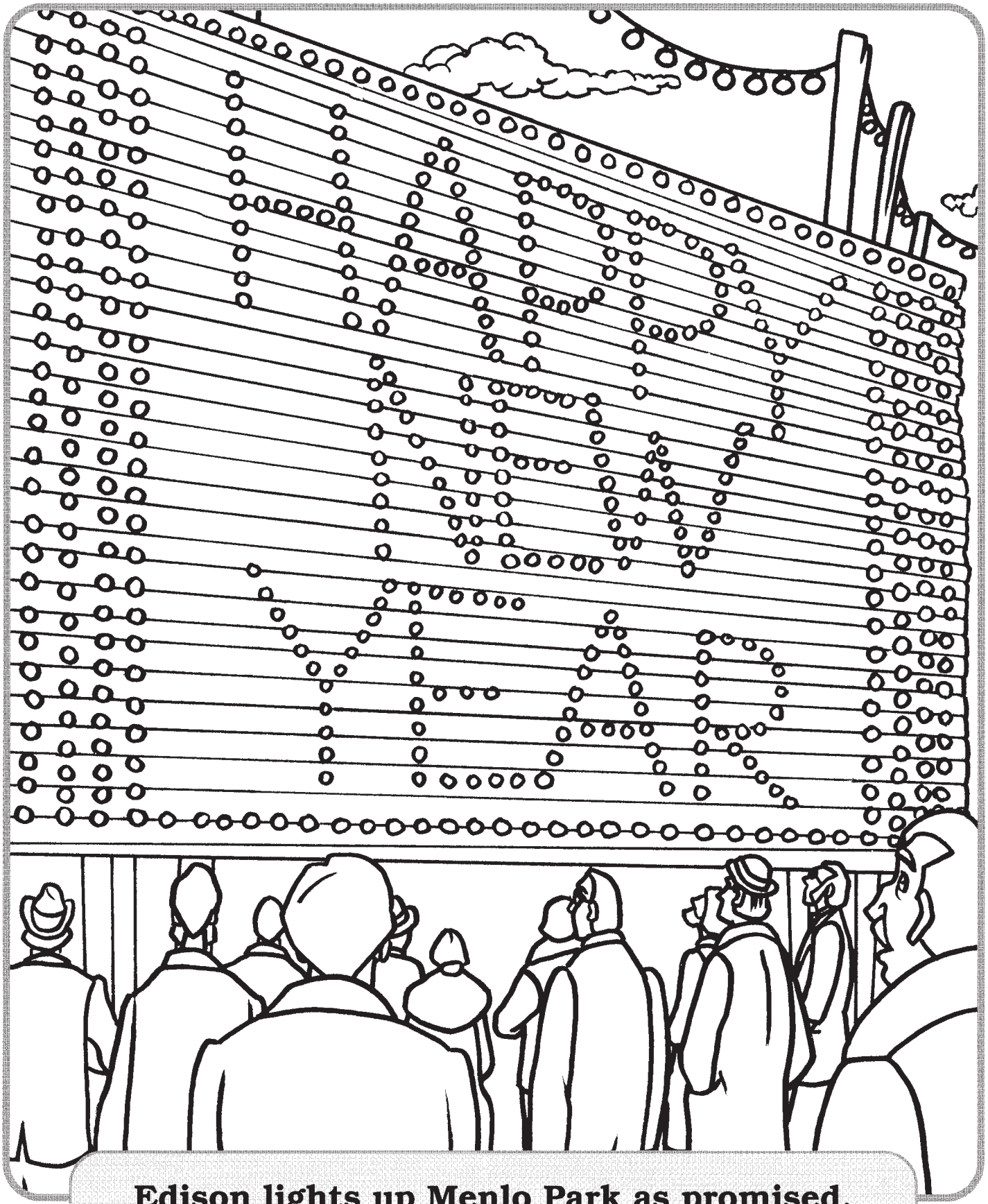

Edison lights up Menlo Park as promised.

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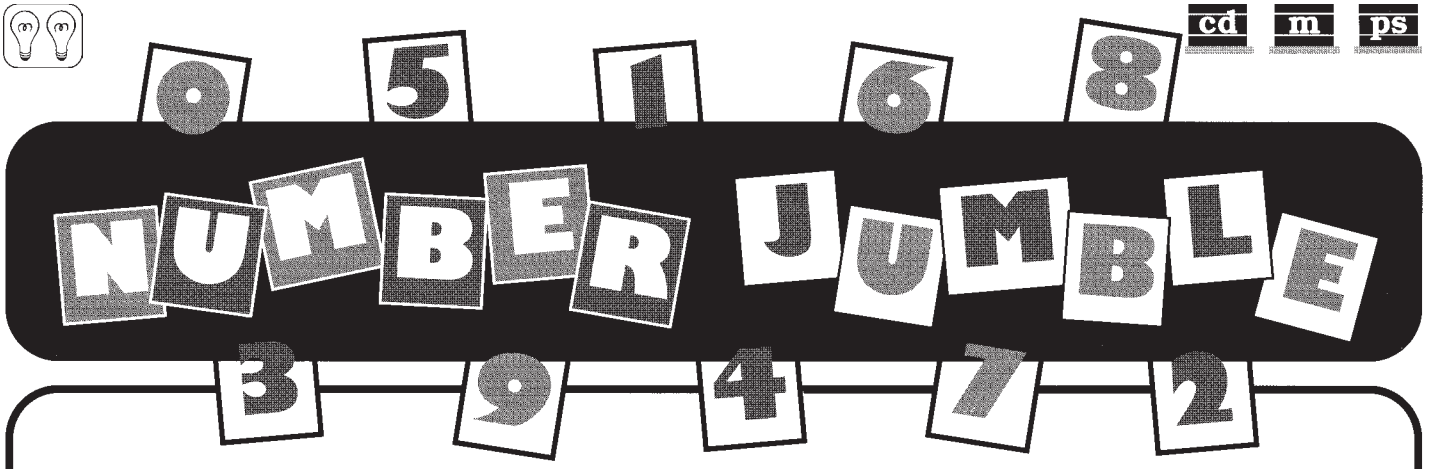

Edison was able to accomplish great things because he was a diligent worker. Working hard is one part of being diligent. Solve the puzzle below to discover two other parts to the definition.

STEP ONE **Cross off the letter above every number that is not a multiple of five (5, 10, 15, and so on).**

1.	**S**	**C**	**T**	**H**	**E**	**R**	**A**	**L**	**T**	**D**	**O**	**I**	**L**	**G**	**Y**
	15	6	40	32	85	19	5	64	88	20	53	70	35	16	90
2.	**C**	**S**	**A**	**N**	**R**	**P**	**E**	**F**	**D**	**U**	**M**	**L**	**A**	**L**	**Y**
	65	38	10	92	25	7	95	30	61	45	74	80	29	50	75

STEP TWO **Copy the letters that are not crossed off, in order, on the blanks below.**

Being diligent means:

1. Working _____ _____ _____ _____ _____ _____ _____ _____ .

2. Working _____ _____ _____ _____ _____ _____ _____ _____ _____ .

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MATCHING GAME

Match each description on the right with the correct person or item on the left. Write the letters of the correct answers in the boxes.

1. Thomas Edison	☐	A. Mathematician
2. Charles Batchelor	☐	B. Helped Edison build the phonograph
3. J.P. Morgan	☐	C. Invention that sends coded messages
4. Gaslight	☐	D. Invented the electric light
5. Ludwig Boehm	☐	E. Edison's lawyer
6. Francis Upton	☐	F. British fellow inventor
7. Incandescent Lamp	☐	G. Financed Edison's experiments
8. John Kreusi	☐	H. Was replaced by electric light
9. Telegraph	☐	I. Glassblower
10. Grosvenor Lowery	☐	J. First name of the light bulb

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TRUE OR FALSE

1.	As a boy, Edison was curious and asked many questions.	T	F
2.	People used gas to light their homes before the electric light.	T	F
3.	Edison knew gaslight was safer than electric light.	T	F
4.	Charles Batchelor and John Kreusi were Edison's enemies.	T	F
5.	Francis Upton was an inventor and a mathematician.	T	F
6.	J.P. Morgan did not give Edison money.	T	F
7.	Edison improved the telegraph and the telephone.	T	F
8.	The New York Gas Company helped Edison.	T	F
9.	No one was very interested in Edison's work.	T	F
10.	Edison had more than 1000 inventions.	T	F
11.	Edison lied to the newspaper reporters.	T	F
12.	On New Year's Eve, Edison lit up 2,000 electric light bulbs.	T	F

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THOMAS EDISON
QUESTIONS

1. Name three of Edison's inventions._____
   _____
2. Who were Edison's co-workers?_____
   _____
3. Who helped finance Edison's electrical experiments? _____
   Who persuaded him to do this? _____
4. What was the light bulb originally called? _____
5. Why was this kind of light not used in homes? _____
   _____
6. What was the original shape of Edison's electric light?_____
7. Why did Edison consider gaslight to be impractical and dangerous?_____
   _____
8. What did the people of Menlo Park call Edison? _____
9. Who made all of the bulbs for Edison's experiments? _____
10. What was the problem Edison kept having with these bulbs? _____
    _____
11. What machine did Edison use to get all of the oxygen out of the light bulbs?
    _____
12. What did Edison find to be the best filament for the light bulb? _____
    _____
13. How many light bulbs did Edison use to show his new discovery to the people of Menlo Park? _____
14. Edison once said that he was more interested in results than in science. How did this way of thinking help him in his experiments? _____
    _____
15. What was Edison's strongest character quality? _____
    _____

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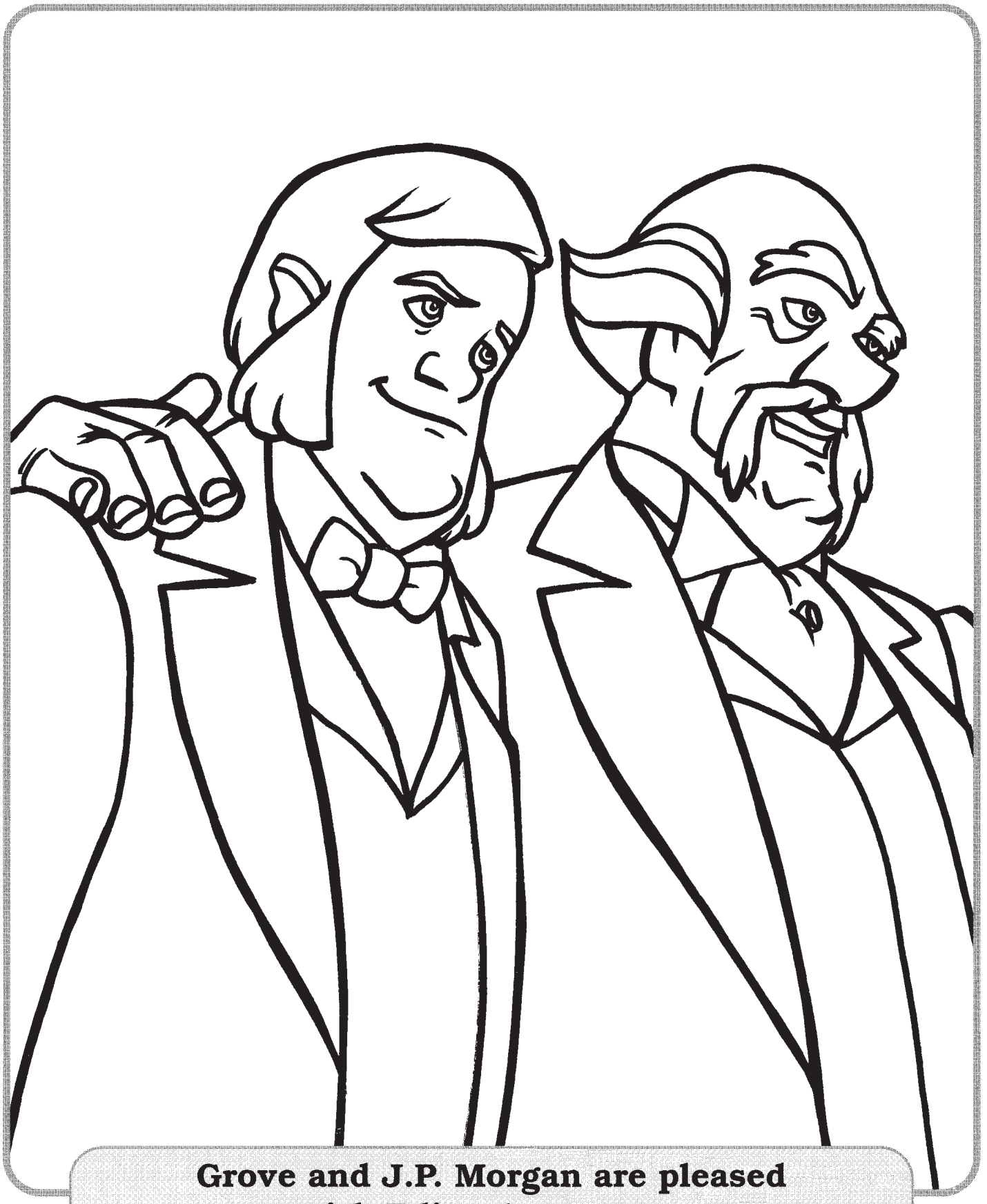

Grove and J.P. Morgan are pleased with Edison's success.

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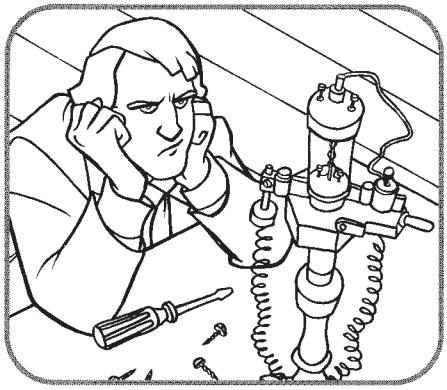
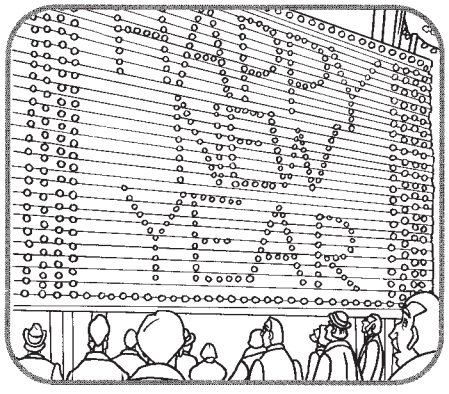
THINGS TO DISCUSS

1. Thomas Edison worked with American, English and Swiss inventors, and his glassblower was German. Edison understood how important it is to overcome differences and work together. How did this attitude help him in his experimenting?



2. Edison spent months working on an electric light. Over and over his bulbs burned out and his experiments failed. What do you feel like doing when you fail at something? How did Edison respond to his failures?

3. Many people thought inventing an electric light was impossible, but Edison proved they were wrong. What are some inventions that seem impossible today, but might be used by everyone some day in the future?



4. The electric light changed lifestyles everywhere. It allowed people to do things after dark that before they could only do in the daylight. What are some things you do after dark that you could not do without electric lights?

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ANSWER KEY

THE SECRET SENTENCE — PAGE 5

Edison; Batchelor; John Kreusi; Grove; Francis Upton

ANSWER: He invented the electric light.

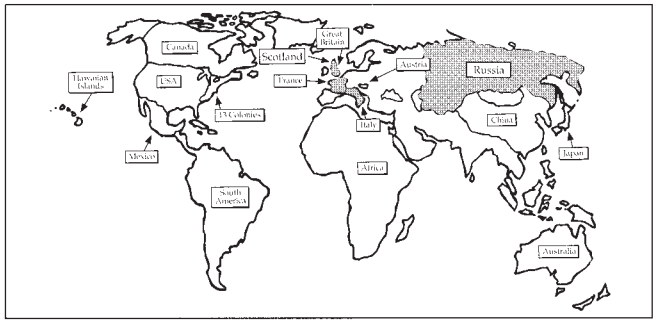
EDISON'S AMAZING ANAGRAMS — PAGE 6

1. player 2. able 3. signed
4. team 5. shape 6. tested
7. straw 8. list 9. times 10. stop

STAY IN THE CENTER — PAGE 8

1. fire 2. science 3. cheerful

AROUND THE WORLD IN 1879 — PAGE 9



WORD SEARCH PUZZLE

X	P	L	I	R	D	F	R	U	S	S	I	A	M	F	T	X
L	V	B	T	G	G	R	B	A	S	O	F	J	K	R	M	I
G	R	E	A	T	B	R	I	T	A	I	N	S	I	A	J	A
V	P	M	L	Q	L	A	T	E	C	O	W	N	X	N	R	M
L	O	J	Y	R	S	C	O	T	L	A	N	D	Y	C	L	Z
S	H	E	O	U	V	F	B	U	D	G	U	P	H	E	Q	K

FINISH THE STORY — PAGE 11

intelligent; boy; liked; questions; worked; school; think; knew; teach; read; small; inventor

EVEN OR ODD? — PAGE 13

His work was a success.

NOUNS AND VERBS — PAGE 14

1. inventor
2. pump
3. find
4. gaslight
5. finance
6. experiments
7. believe
8. discourage

ALPHABET ANSWER — PAGE 15

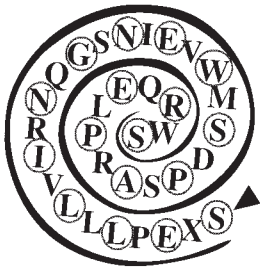
1) 9; 2) 5; 3) 5; 4) 9; 5) 12;
6) 4; 7) 14; 8) 4; 9) 3
I E E I L D N G C
Answer: Diligence

MATH WORDS — PAGE 16

not; the; possible; light; is; electric

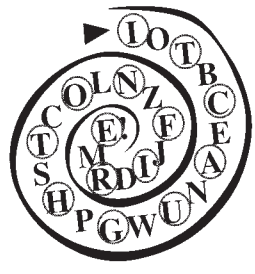
Answer: The electric light is not possible.

WORD WHIRLS — PAGE 10



1. Selling Newspapers

2. Telegraph Operator



3. It caught on fire!

4. He became deaf.

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POET'S PAGE — PAGE 18

sight; began; day; rest; burn; find; last; light

THE WORD LINK — PAGE 19

Edison; people; to; invented; things; help

Answer: Edison invented things to help mankind.

WORD BOX

Edison	~~hang~~	~~sell~~	~~let~~	~~tap~~
~~bait~~	~~ban~~	invented	~~rang~~	~~some~~
~~silly~~	~~name~~	thing	help	wait
mankind	~~and~~	~~sorry~~	~~bait~~	~~bring~~
~~mad~~	to	~~nail~~	things	~~that~~

CODE FUN — PAGE 20

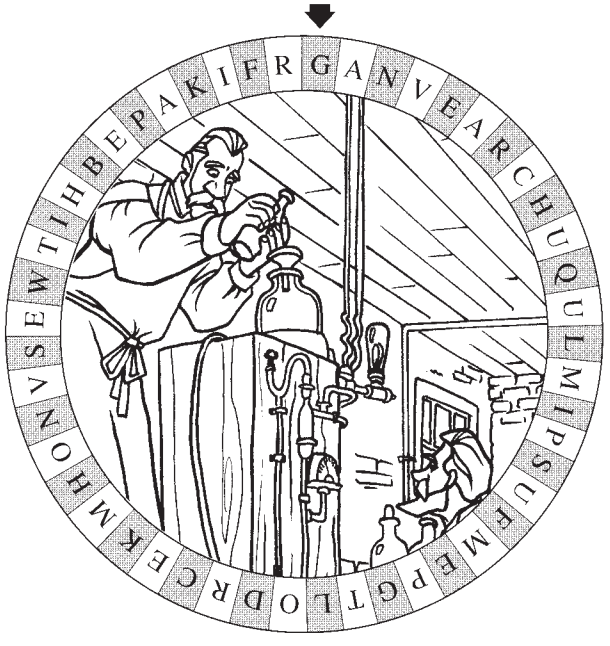
Answers: 1. Electric vote counter
2. Phonograph 3. Kinetograph
4. Stock ticker

MIX 'N' MATCH CODE — PAGE 21

Answer: There was oxygen inside the bulbs.

WORD WHEEL — PAGE 23

Answer: A vacuum pump to remove the air.



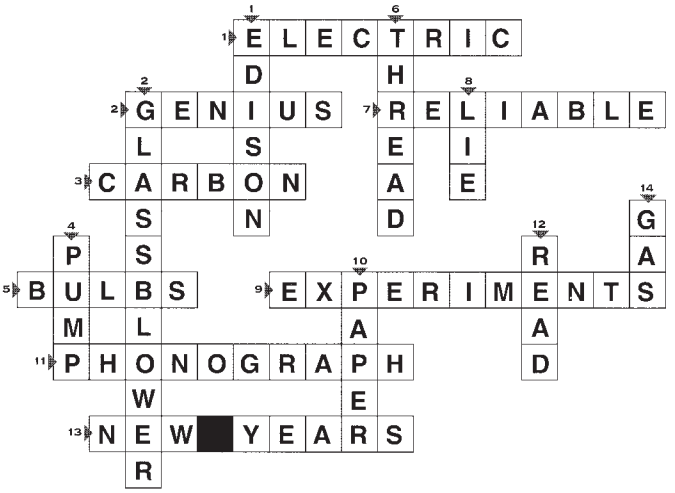
FIND THE SPELLING MISTAKES — PAGE 24

Answers: 1. inventer – INVENTOR;
2. experments – EXPERIMENTS;
3. togethur – TOGETHER;
4. failyur – FAILURE;
5. diligint – DILIGENT;
6. electrik – ELECTRIC

WORD SHAPES — PAGE 25

Answers: 1. boy 2. goose
3. eggs 4. fire 5. barn
6. train 7. baggage

EDISON CROSSWORD — PAGE 26


1 E L E C T R I C
D H
2 G E N I U S 7 R E L I A B L E
L S E I
3 C A R B O N A E
S N D
4 P S 12 R 14 G
5 B U L B S 9 E X P E R I M E N T S 10 A A
M L A
11 P H O N O G R A P H D
W E
13 N E W Y E A R S
R

WHAT AM I? — PAGE 28

D E I N L C I E G

Answer: Diligence

NUMBER SEQUENCE — PAGE 29

Answer: Carbon

EDISON'S SIZZLING SCIENCE SECTION — PAGE 30

STEP TWO: The bottle swings away from the pen because the two negative charges repel each other.

STEP THREE: The bottle swings toward the pen because opposite charges attract each other.

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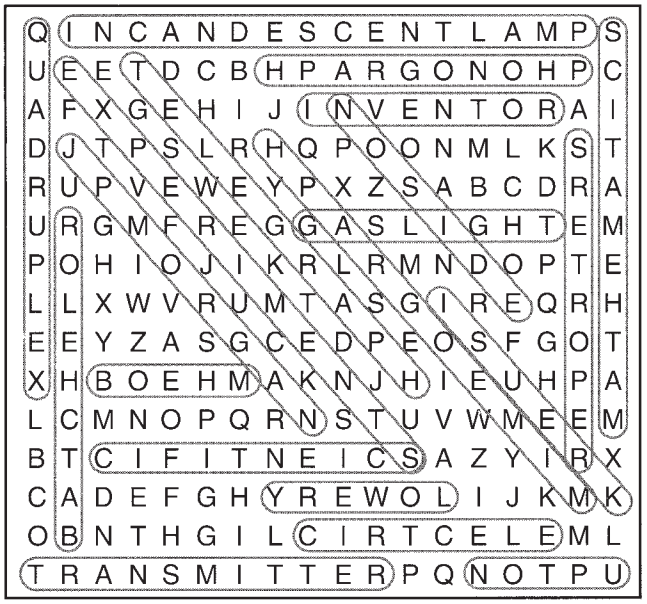
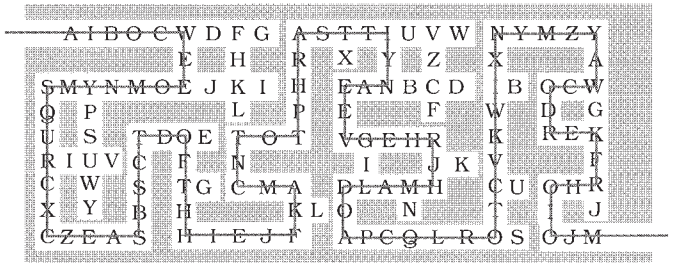
WORD SEARCH — PAGE 31


Q I N C A N D E S C E N T L A M P S
U E E T D C B H P A R G O N O H P C
A F X G E H I J I N V E N T O R A I
D J T P S L R H Q P O O N M L K S T
R U P V E W E Y P X Z S A B C D R A
U R G M F R E G G A S L I G H T E M
P O H I O J I K R L R M N D O P T E
L L X W V R U M T A S G I R E Q R H
E E Y Z A S G C E D P E O S F G O T
X H B O E H M A K N J H I E U H P A
L C M N O P Q R N S T U V W M E E M
B T C I F I T N E I C S A Z Y I R X
C A D E F G H Y R E W O L I J K M K
O B N T H G I L C I R T C E L E M L
T R A N S M I T T E R P Q N O T P U

THE A-MAZE-ING MR. EDISON — PAGE 33

Answer: "I owe my success to the fact that I have never had a clock in my workroom."



FUN WITH MATH AND WORDS — PAGE 34

Answer: He did not stop trying.

PUZZLING POETRY — PAGE 35

Answers: *Phonograph* *Light bulb*
J.P. Morgan *Francis Upton*
Edison *Jenkins*

BEFORE AND AFTER — PAGE 36

E T D R H A

Answer: THREAD

NUMBER JUMBLE — PAGE 38

1. Working steadily
2. Working carefully

MATCHING GAME — PAGE 39

1 – D; 2 – F; 3 – G; 4 – H; 5 – I; 6 – A; 7 – J; 8 – B; 9 – C; 10 – E

TRUE OR FALSE? — PAGE 40

1. True	*4. False*	*7. True*	*10. True*
2. True	*5. True*	*8. False*	*11. False*
3. False	*6. False*	*9. False*	*12. True*

QUESTIONS — PAGE 41

1. *Edison invented the electric light, the phonograph, the mimeograph, the transmitter, the quadruplex, and the motion picture camera, to name a few.*
2. *Edison's co-workers were John Kreusi, Charles Batchelor, Francis Upton and Ludwig Boehm.*
3. *J.P. Morgan helped finance Edison's experiments. Grove Lowery persuaded him to do this.*
4. *The light bulb was originally called an incandescent lamp.*
5. *This kind of light was too bright to be used in homes.*
6. *Edison's original light bulb was shaped like a cylinder.*
7. *The smoke from burning gas could damage curtains and walls. There was also danger of fire if the gas did not burn properly.*
8. *They called Edison the "Wizard of Menlo Park."*
9. *Ludwig Boehm made the light bulbs for Edison's experiments.*
10. *The light bulbs kept going out.*
11. *Edison used an air pump to suck out all the oxygen from the light bulbs.*
12. *The best filament for the light bulb was a piece of thread.*
13. *Edison used two thousand light bulbs.*
14. *Edison cared more about results than he did for science because results kept his optimism high, and he did not have to slow down his inventive pace.*
15. *Edison's strongest character quality was his diligence.*

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